

Form PTO-1449

INFORMATION DISCLOSURE CITATION  
IN AN APPLICATION

(Use several sheets if necessary)

Docket Number

Application Number

Applicant

Martin J. GOLDBERG et al.

Filing Date

Group Art Unit



## U.S. PATENT DOCUMENTS

Examiner Initials	Ref. No.	Date	Document No.	Name	Class	Subclass	Filing Date If Appropriate
	1.	12/08/87	4,711,955	Ward et al.			
	2.	11/21/89	4,882,269	Schneider et al.			
	3.	03/20/90	4,910,300	Urdea et al.			
	4.	06/23/92	5,124,246	Urdea et al.			
	5.	09/01/92	5,143,854	Pirrung et al.			
	6.	12/29/92	5,175,270	Nilsen et al.			
	7.	10/12/93	5,252,743	Barrett et al.			
	8.	05/10/94	5,310,523	Smethers et al.			
	9.	10/25/94	5,359,100	Urdea et al.			
	10.	01/24/95	5,384,261	Winkler et al.			
	11.	05/02/95	5,412,087	McGall et al.			
	12.	6/13/95	5,424,186	Fodor et al.			
	13.	09/19/95	5,451,683	Barrett et al.			
	14.	01/16/96	5,484,904	Nilsen et al.			
	15.	01/30/96	5,487,973	Nilsen et al.			
	16.	04/23/96	5,510,270	Fodor et al.			
	17.	06/18/96	5,527,681	Holmes			
	18.	08/13/96	5,545,531	Rava et al.			
	19.	08/20/96	5,547,839	Dower et al.			
	20.	09/03/96	5,552,280	Urdea et al.			
	21.	10/01/96	5,561,043	Cantor et al.			
	22.	11/05/96	5,571,639	Hubbell et al.			
	23.	11/05/96	5,571,670	Urdea			
	24.	11/26/96	5,578,832	Trulson et al.			
	25.	12/03/96	5,580,731	Chang et al.			
	26.	01/07/97	5,591,584	Chang et al.			
	27.	01/14/97	5,594,117	Urdea et al.			
	28.	01/24/97	5,594,118	Urdea et al.			

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Examiner Initials	Ref. No.	Date	Document No.	Name	Class	Subclass	Filing Date If Appropriate
	29.	01/28/97	5,597,909	Urdea et al.			
	30.	02/04/97	5,599,695	Pease et al.			
	31.	03/25/97	5,614,362	Urdea			
	32.	04/29/97	5,624,711	Sundberg et al.			
	33.	04/29/97	5,624,802	Urdea et al.			
	34.	05/13/97	5,629,153	Urdea			
	35.	05/20/97	5,631,734	Stern et al.			
	36.	08/12/97	5,656,731	Urdea			
	37.	10/14/97	5,677,195	Winkler et al.			
	38.	12/30/97	5,702,893	Urdea et al.			
	39.	01/20/98	5,710,000	Sapolsky et al.			
	40.	01/20/98	5,710,264	Urdea et al.			
	41.	04/07/98	5,736,316	Irvine et al.			
	42.	04/28/98	5,744,305	Fodor et al.			

## FOREIGN PATENT DOCUMENTS

Examiner Initials	Ref. No.	Date	Document No.	Country	Class	Subclass	Translation YES NO	
	43.	05/05/89	WO 89/03891	PCT				
	44.	02/20/94	WO 92/02526	PCT				
	45.	06/25/92	WO 92/10092	PCT				
	46.	05/27/93	WO 93/09668	PCT				
	47.	03/20/97	WO 97/10365	PCT				
	48.	08/14/97	WO 97/29212	PCT				
	49.	11/13/97	WO 97/42211	PCT				
	50.	11/13/97	WO 97/42213	PCT				
	51.	11/13/97	WO 97/42218	PCT				
	52.	12/11/97	WO 97/46703	PCT				

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Filing Date

Group Art Unit

## OTHER DOCUMENTS

(including author, title, Date, Pertinent Pages, Etc.)

Examiner Initials	Ref. No.	Title
	53.	Bayer and Wilchek. "Labeling and detection of proteins and glycoproteins." <u>Nonradioactive Labeling and Detection of Biomolecules</u> . Kessler, C., Ed. New York: Springer-Verlag, 1992. pp. 91-100.
	54.	Cardullo. "Nonradioactive fluorescence energy transfer." <u>Nonradioactive Labeling and Detection of Biomolecules</u> . Kessler, C., Ed. New York: Springer-Verlag, 1992. pp. 414-423.
	55.	Chee. (25 October 1996). "Accessing genetic information with high-density DNA arrays," <i>Science</i> . 274:610-614.
	56.	Cimino et al. (1985). "Psoralens as photoactive probes of nucleic acid structure and function: Organic chemistry, photochemistry, and biochemistry," <i>Ann Rev. Biochem.</i> 54:1151-1193.
	57.	Howard, G. "Labeling proteins with fluorochromes." <u>Methods in Nonradioactive Detection</u> . Howard, G., Ed. Norwalk, CT: Appleton and Lange, 1993. pp. 39-68.
	58.	Kessler, C. "Overview of nonradioactive labeling systems." <u>Nonradioactive Labeling and Detection of Biomolecules</u> . Kessler, C., Ed. New York: Springer-Verlag, 1992. pp. 27-34.
	59.	Levenson et al. (1990). "Biotinylated psoralen derivative for labeling nucleic acid hybridization probes," <i>Methods Enzymol.</i> 184:577-583.
	60.	<u>Methods in Nonradioactive Detection</u> . Howard, G. Ed. Norwalk, CT: Appleton and Lange, 1993. pp. 11-27.
	61.	<u>Methods in Nonradioactive Detection</u> . Howard, G. Ed. Norwalk, CT: Appleton and Lange, 1993. pp. 137-150.
	62.	<u>Nonradioactive Labeling and Detection Systems</u> . Kessler, C., Ed. New York: Springer-Verlag, 1992. 70-99.
	63.	de Saizieu et al. (January 1998). "Bacterial transcript imaging by hybridization of total RNA to oligonucleotide arrays," <i>Nat. Biotechnol.</i> 16(1):45-48.
	64.	Van de Plas. "Colloidal gold as a marker in molecular biology: The use of ultra-small gold particles." <u>Nonradioactive Labeling and Detection of Biomolecules</u> . Kessler, C., Ed. New York: Springer-Verlag, 1992. pp. 116-126.

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**INFORMATION DISCLOSURE STATEMENT  
BY APPLICANT**

Applicant: GOLDBERG et al.

Continuation of Appln. No.: 09/276,774

Filing Date: March 25, 1999

Date: February 6, 2001

Page

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of

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Examiner:

Group Art Unit:

**U.S. PATENT DOCUMENTS**

Examiner's Initials*		Document Number	Date MM/YYYY	Name (Family Name of First Inventor)	Class	Sub Class	Filing Date (if appropriate)
	AR	5,635,352	06/1997	Urdea et al.			
	BR	5,804,384	09/1998	Muller et al.			
	CR	5,512,436	04/1996	Stone			
	DR	5,175,270	12/1992	Nilsen et al.			
	ER						
	FR						
	GR						
	HR						

**FOREIGN PATENT DOCUMENTS**

		Document Number	Date MM/YYYY	Country	Inventor Name	English Abstract		Translation Readily Available	
						Enclosed	No	Enclose	No
	IR	0 154 884 A2	09/1985	Europe					
	JR	WO 90/04786	05/1990	WIPO					
	KR	WO 93/24658	12/1993	WIPO					
	LR	WO 95/20320	08/1995	WIPO					
	MR	WO 98/04745	02/1998	WIPO					
	NR	WO 98/18488	05/1998	WIPO					
	OR								
	PR								
	QR								
	RR								

**OTHER (Including in this order Author, Title, Periodical Name, Date, Pertinent Pages, etc.)**

	SR	Kerstens, H. et al., "A Novel in Situ Hybridization Signal Amplification Method Based on the Deposition of Biotinylated Tyramine," <i>J. Histochemistry and Cytochemistry</i> (1995) 43(4):347-352			
	TR	European Search Report 99250336.7 dated February 3, 2000			
	UR				
	VR				
	WR				
	XR				
	YR				
	ZR				
	AAR				

Examiner

Date Considered:

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14.FEB.2000

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Datum/Date

11.02.00

Zeichen/Ref./Réf.

P 51736

Anmeldung Nr./Application No./Demande n°/Patent Nr./Patent No./Brevet n°.

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Anmelder/Applicant/Demandeur/Patentinhaber/Proprietor/Titulaire

Affymetrix, Inc.

## COMMUNICATION

The European Patent Office herewith transmits as an enclosure the European search report for the above-mentioned European patent application.

If applicable, copies of the documents cited in the European search report are attached.

☒ Additional set(s) of copies of the documents cited in the European search report is (are) enclosed as well.

The following specifications given by the applicant have been approved by the Search Division:

☒ abstract

☒ title

☐ The abstract was modified by the Search Division and the definitive text is attached to this communication.

The following figure will be published together with the abstract:

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## REFUND OF THE SEARCH FEE

If applicable under Article 10 Rules relating to fees, a separate communication from the Receiving Section on the refund of the search fee will be sent later.





European Patent  
Office

# EUROPEAN SEARCH REPORT

Application Number  
EP 99 25 0336

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
A	US 5 487 973 A (NILSEN THOR W ET AL) 30 January 1996 (1996-01-30) * claims 1-9, 19-21 *	5, 15	C12Q1/68 G01N33/58
A	WO 98 04745 A (SINAI SCHOOL MEDICINE) 5 February 1998 (1998-02-05) * figures 10, 11, 5 *	1, 2, 7-14, 23-35	
A	EP 0 154 884 A (MOLECULAR DIAGNOSTICS INC) 18 September 1985 (1985-09-18) * page 10, line 3 - line 8; figure 2 *	1, 2, 7-14, 23-25	
A	WO 93 24658 A (GEN TRAK INC) 9 December 1993 (1993-12-09) * page 15; figure 3 *	1, 2, 7-14, 23-25	
A	KERSTENS H M J ET AL: "A NOVEL IN SITU HYBRIDATION SIGNAL AMPLIFICATION METHOD BASED ON THE DEPOSITION OF BIOTINYLATED TYRAMINE" THE JOURNAL OF HISTOCHEMISTRY AND CYTOCHEMISTRY, US, NEW BRUNSWICK, NJ, vol. 43, no. 4, 1 April 1995 (1995-04-01), pages 347-352, XP000601676 * figure 1 *	1, 2, 7-14, 23-25	TECHNICAL FIELDS SEARCHED (Int.Cl.7) C12Q G01N
A	WO 98 18488 A (POLYPROBE INC) 7 May 1998 (1998-05-07) * claims 1-19; figure 2D *	1-5, 15	
A	US 5 635 352 A (URDEA MICHAEL S ET AL) 3 June 1997 (1997-06-03) * the whole document *	3, 5	
-/--			
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 3 February 2000	Examiner Osborne, H
CATEGORY OF CITED DOCUMENTS			
<p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons &amp; : member of the same patent family, corresponding document</p>			

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EPO FORM 1503 03.82 (P04C01)



DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
A	WO 95 20320 A (UNIV BOSTON ; UNIV MASSACHUSETTS MEDICAL (US)) 3 August 1995 (1995-08-03) * claims 1-50 *	1-5, 15	
A	WO 90 04786 A (MOLECULAR DEVICES CORP) 3 May 1990 (1990-05-03)		
			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 3 February 2000	Examiner Osborne, H
<b>CATEGORY OF CITED DOCUMENTS</b> X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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EPO FORM 1503 03.82 (P04001)

# ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO.

EP 99 25 0336

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on  
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03-02-2000

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5487973 A	30-01-1996	US 5175270 A	29-12-1992
		US 5484904 A	16-01-1996
WO 9804745 A	05-02-1998	US 5876924 A	02-03-1999
EP 0154884 A	18-09-1985	US 4748111 A	31-05-1988
		AU 578933 B	10-11-1988
		AU 3943485 A	19-09-1985
		CA 1222706 A	09-06-1987
		DK 110885 A	13-09-1985
		ES 541077 A	16-04-1986
		FI 850925 A	13-09-1985
		IL 74539 A	31-01-1989
		JP 60226900 A	12-11-1985
		NO 850769 A	13-09-1985
		NZ 211366 A	30-05-1988
		ZA 8501797 A	27-11-1985
WO 9324658 A	09-12-1993	AU 4596893 A	30-12-1993
WO 9818488 A	07-05-1998	AU 4914097 A	22-05-1998
		EP 0951297 A	27-10-1999
US 5635352 A	03-06-1997	US 5681697 A	28-10-1997
		AU 694468 B	23-07-1998
		AU 1303895 A	27-06-1995
		CA 2178598 A	15-06-1995
		EP 0731848 A	18-09-1996
		HU 74225 A	28-11-1996
		JP 9507024 T	15-07-1997
		WO 9516055 A	15-06-1995
WO 9520320 A	03-08-1995	US 5561043 A	01-10-1996
		AU 1730595 A	15-08-1995
		EP 0744894 A	04-12-1996
		JP 9511641 T	25-11-1997
		US 5965133 A	12-10-1999
WO 9004786 A	03-05-1990	AT 131617 T	15-12-1995
		CA 2000810 A	17-04-1990
		DE 68925112 D	25-01-1996
		DE 68925112 T	11-07-1996
		EP 0390910 A	10-10-1990
		JP 3501777 T	18-04-1991
		US 5888728 A	30-03-1999

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82